

What is claimed is:

1. A carrier core material containing at least one metal oxide ($M^L O$) having a melting point of not higher than 1000°C and at least one metal oxide ($M^H O$) having a melting point of not lower than 1800°C , wherein the metal (M^H) for constituting the metal oxide ($M^H O$) has an electrical resistivity of not less than $10^{-5} \Omega \cdot \text{cm}$.
2. The carrier core material as claimed in claim 1, wherein a part of the metal oxide ($M^H O$) is independently present in the carrier core material.
3. The carrier core material as claimed in claim 1 or 2, wherein the weight ratio ($(M^L O)/(M^H O)$) of the metal oxide ($M^L O$) to the metal oxide ($M^H O$) contained in the carrier core material is in the range of 0.01 to 50.
4. The carrier core material as claimed in any one of claims 1 to 3, having an average particle diameter of 15 to $70 \mu\text{m}$.
5. A carrier core material comprising a ferrite component having composition represented by the following formula (A):



wherein y and z are each expressed in % by mol and are numbers satisfying the conditions of $40 \leq z < 100$ and $y+z=100$, M is a metal selected from Fe, Cu, Zn, Mn, Mg, Ni, Sr, Ca and Li, and MO is one or more oxides selected from oxides of these metals,

and containing, in the ferrite component, at least one metal oxide ($M^L O$) having a melting point of not higher than $1000^\circ C$ and at least one metal oxide ($M^H O$) having a melting point of not lower than $1800^\circ C$, said metal oxide ($M^L O$) and said metal oxide ($M^H O$) being selected from metal oxides other than the metal oxide (MO).

6. The carrier core material as claimed in claim 5, wherein a part of the metal oxide ($M^H O$) is independently present in the carrier core material.

7. The carrier core material as claimed in claim 5 or 6, wherein the weight ratio $((M^L O)/(M^H O))$ of the metal oxide ($M^L O$) to the metal oxide ($M^H O$) contained in the carrier core material is in the range of 0.01 to 50.

8. The carrier core material as claimed in any one of claims 5 to 7, having an average particle diameter of 15 to 70 μm .

5 9. The carrier core material as claimed in any one of claims 5 to 8, wherein the metal (M^H) for constituting the metal oxide ($M^H\text{O}$) has an electrical resistivity of not less than $10^{-5} \Omega \cdot \text{cm}$.

10 10. The carrier core material as claimed in any one of claims 5 to 9, wherein the metal oxide (MO) is at least one metal oxide selected from the group consisting of FeO , MnO , MgO , CaO , Li_2O and SrO .

15 11. The carrier core material as claimed in any one of claims 1 to 10, wherein the total content ($(M^L\text{O}) + (M^H\text{O})$) by weight of the metal oxide ($M^L\text{O}$) and the metal oxide ($M^H\text{O}$) in the carrier core material is in the range of 0.02 to 24% by weight.

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12. The carrier core material as claimed in any one of claims 1 to 11, wherein the metal oxide ($M^H\text{O}$) is contained inside the particle of the carrier core

material in a concentration higher than that in the vicinity of the surface of the particle thereof.

13. The carrier core material as claimed in any one
5 of claims 1 to 12, wherein the melting point of the metal oxide ($M^L O$) is in the range of 550 to 900°C and the melting point of the metal oxide ($M^H O$) is in the range of 1800 to 3500°C.

10 14. The carrier core material as claimed in any one of claims 1 to 13, having no heat history of being heated to a temperature higher than the melting point of the metal oxide ($M^H O$) contained in the carrier core material.

15 15. The carrier core material as claimed in any one of claims 1 to 14, having an electrical resistivity of not less than $10^2 \Omega \cdot \text{cm}$.

20 16. A coated carrier comprising a carrier core material and a resin coating layer with which the carrier core material is coated, wherein the carrier core material contains at least one metal oxide ($M^L O$) having a melting point of not higher than 1000°C and at least one metal oxide ($M^H O$) having a melting point of not lower

than 1800°C , and the metal (M^{H}) for constituting the metal oxide ($\text{M}^{\text{H}}\text{O}$) has an electrical resistivity of not less than $10^{-5} \text{ } \Omega\cdot\text{cm}$.

5 17. A coated carrier comprising a carrier core material and a resin coating layer with which the carrier core material is coated, wherein the carrier core material comprises a ferrite component having composition represented by the following formula (A):

$$10 \quad (\text{MO})_y (\text{Fe}_2\text{O}_3)_z \quad (\text{A})$$

wherein y and z are each expressed in % by mol and are numbers satisfying the conditions of $40 \leq z < 100$ and $y+z=100$, M is a metal selected from Fe, Cu, Zn, Mn, Mg, Ni, Sr, Ca and Li, and MO is one or more oxides selected from oxides of these metals,

and contains, in the ferrite component, at least one metal oxide ($M^L O$) having a melting point of not higher than $1000^{\circ}C$ and at least one metal oxide ($M^H O$) having a melting point of not lower than $1800^{\circ}C$, said metal oxide ($M^L O$) and said metal oxide ($M^H O$) being selected from metal oxides other than the metal oxide (MO).

18. The coated carrier as claimed in claim 17, wherein the metal (M^H) for constituting the metal oxide

(M^HO) has an electrical resistivity of not less than 10^{-5} $\Omega \cdot \text{cm}$.

19. The coated carrier as claimed in claim 17 or 18,
5 wherein the metal oxide (MO) is at least one metal oxide selected from the group consisting of FeO, MnO, MgO, CaO, Li₂O and SrO.

20. The coated carrier as claimed in any one of
10 claims 16 to 19, wherein a part of the metal oxide (M^HO) is independently present in the carrier core material for forming the coated carrier.

21. The coated carrier as claimed in any one of
15 claims 16 to 20, wherein the weight ratio ((M^LO)/(M^HO)) of the metal oxide (M^LO) to the metal oxide (M^HO) contained in the carrier core material for forming the coated carrier is in the range of 0.01 to 50.

20 22. The coated carrier as claimed in any one of claims 16 to 21, wherein the total content ((M^LO)+(M^HO)) by weight of the metal oxide (M^LO) and the metal oxide (M^HO) in the carrier core material for forming the coated carrier is in the range of 0.02 to 24% by weight.

23. The coated carrier as claimed in any one of claims 16 to 22, wherein the metal oxide ($M^H O$) is contained inside the particle of the carrier core material for forming the coated carrier in a concentration higher than that in the vicinity of the surface of the particle thereof.

24. The coated carrier as claimed in any one of claims 16 to 23, wherein the melting point of the metal oxide ($M^L O$) is in the range of 550 to 900°C and the melting point of the metal oxide ($M^H O$) is in the range of 1800 to 3500°C.

25. The coated carrier as claimed in any one of claims 16 to 24, wherein the carrier core material is coated with 0.01 to 10 parts by weight of a resin based on 100 parts by weight of the carrier core material.

26. The coated carrier as claimed in any one of claims 16 to 25, having an average particle diameter of 15 to 70 μm .

27. The coated carrier as claimed in any one of claims 16 to 26, having an electrical resistivity of not less than $10^7 \Omega \cdot \text{cm}$.

5 28. The coated carrier as claimed in any one of claims 16 to 27, having no heat history of being heated to a temperature higher than the melting point of the metal oxide ($\text{M}^{\text{H}}\text{O}$) contained in the carrier core material for forming the coated carrier.

10 29. The coated carrier as claimed in any one of claims 16 to 28, wherein the carrier core material for forming the coated carrier has an electrical resistivity of not less than $10^2 \Omega \cdot \text{cm}$.

15 30. The coated carrier as claimed in any one of claims 16 to 29, having a magnetization, at $1000(10^3/4\pi \cdot \text{A/m})$ (1000 oersted), of 40 to $100 \text{ Am}^2/\text{kg}$ (40 to 100 emu/g).

20 31. The coated carrier as claimed in any one of claims 16 to 30, wherein the resin for forming the coated carrier is a silicone type thermosetting resin.

32. A two-component developing agent for electrophotography, comprising the coated carrier of any one of claims 16 to 31 and toner particles having an average particle diameter of 3 to 15 μm .

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33. An image forming method comprising developing an electrostatic latent image with the two-component developing agent for electrophotography of claim 32 using an alternating electric field.

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